

**MULTIPLE REFLECTIVITY BAND REFLECTOR  
FOR LASER WAVELENGTH MONITORING**

**ABSTRACT**

5 A monitored laser system includes a laser with a first mirror and an exit mirror. The laser  
also has a laser cavity defined at least in part by the first mirror and the exit mirror. Within the laser  
cavity is an active region that contains material that is capable of stimulated emission at one or more  
wavelengths such that laser light is emitted from the laser. A power source is coupled to the active  
region. A multiple reflectivity band reflector (MRBR) is coupled to at least a portion of the emitted  
10 laser light. The MRBR has at least first and second wavelength bands with reflectivity above a  
particular reflectivity separated by at least a third wavelength band having reflectivity below the  
particular reflectivity. A first photodiode is coupled to at least a portion of the filtered laser light and  
produces an output based on the amount and wavelength of light received. A means for adjusting  
the emitted wavelength of the laser toward a particular wavelength in one of the at least first, second,  
5 and third wavelength bands based at least in part on the output of the first photodiode.